

Patent Claims:

1. An electrical connector comprising:
a dielectric housing,
5 a plurality of signal terminals which are arranged in
the housing,
at least one ground terminal with at least a first
contact section and a first spring arm section, with the
first contact section having at least one first and second
10 contact, wherein
the first and second contact are mechanically coupled.
2. The connector as claimed in Claim 1, wherein
the first and second contact are arranged on the first spring
15 arm section.
3. The connector as claimed in Claim 1, wherein
the first and second contact are arranged colinearly or
transversely offset.
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4. The connector as claimed in Claim 1, wherein
the ground terminal is stamped and formed, and the first and
second contact each comprise a stamped projection.
- 25 5. The connector as claimed in Claim 1, wherein
the first contact section comprises a third contact.
6. The connector as claimed in Claim 1, wherein
the first spring arm section has a first and second leg and
30 has a recess between the first and the second leg.
7. The connector as claimed in Claim 6, further comprising:
a front head section on which the first and second legs are
connected to one another, and

the first contact is arranged on the head section the
second contact is arranged on the first leg and
the third contact is arranged on the second leg.

5 8. The connector as claimed in Claim 1, wherein
at least two of the first, second and third contacts are
longitudinally offset.

9. The connector as claimed in Claim 1, wherein
10 the first spring arm section has a connecting section and a
spring section with the spring section being inclined with
respect to the connecting section.

10. The connector as claimed in Claim 1, wherein
15 the signal terminals are arranged in a first plane,
one surface of the ground terminal faces the first
plane,
the ground terminal is resilient in a transverse
direction with respect to the first plane, and
20 the head section is curved in the direction of
resiliency.

11. The connector as claimed in Claim 1, wherein
the ground terminal has a second spring arm section a second
25 contact section and a shield, with the shield being arranged
between the first and second spring arm section.

12. The connector as claimed in Claim 1, wherein
the signal terminals are arranged in pairs, and the distance
30 of the signal terminals within each pair is less than or
equal to the distance between signal terminals of adjacent
pairs.

13. An electrical connector with ESD capability for a mating
35 connection to a complementary mating connector, comprising:

a dielectric housing,
a plurality of signal terminals which are arranged in
the housing,

at least a ground terminal with at least a first contact
5 section and a first spring arm section, with the first
contact section having at least a first and second contact
which form a first and a second contact pair, respectively,
with a mating ground terminal of the complementary mating
connector,

10 with the connector and the complementary mating
connector defining a completely mated final position, and the
ground terminal is designed such that the first contact pair
is opened in said completely mated final position.

15 14. The connector as claimed in Claim 13, wherein
the second contact pair is closed in the final position.

15. The connector as claimed in Claim 13, wherein
the connector defines an intermediate position, which is
20 reached before the completely mated final position, during
connection to the complementary mating connector,
the first contact pair is closed in the intermediate
position, and

the second contact pair is opened in the intermediate
25 position.

16. An electrical connector assembly comprising:
the connector as claimed in Claim 1 or 13, and
a complementary mating connector.

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17. A modular electrical connector assembly, comprising:
a front face with a plurality of openings for receiving
mating terminals of a complementary mating connector, a
plurality of connector modules each having a dielectric
35 module housing and a plurality of terminals for establishing

electrical connections to the mating terminals, wherein
the module housings each having a front face, and
the front faces of the module housings together
forming the front face of the connector assembly, and
5 a dielectric main housing to which the connector modules
are attached.

18. The connector assembly as claimed in Claim 17, further
comprising:

10 a first guide means for mating interaction with a
complementary mating guide means on the complementary mating
connector, wherein the guide means are arranged on an upper
face of the connector assembly.

15 19. The connector assembly as claimed in Claim 18, wherein
the first guide means is attached to the main housing.

20. The connector assembly as claimed Claim 17, further
comprising:

20 a second guide means for mating interaction with a
complementary mating guide means of the mating connector,
wherein the second guide means is arranged on a lower face of
the connector assembly, opposite the upper face.

25 21. The connector assembly as claimed in Claim 20, wherein
the module housings each have a receptacle for detachable
attachment of the second guide means, and wherein the second
guide means are attachable to the connector assembly at
various positions.

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22. The connector assembly as claimed in Claim 20, wherein
the second guide means comprises two or more separate guide
elements.

23. The connector assembly as claimed in Claim 17, further comprising:

a baseplate being arranged on a lower face of the connector assembly, opposite the upper face.

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24. The connector assembly as claimed in Claim 23, wherein the second guide means is integrally formed with the baseplate.

10 25. The connector assembly as claimed in Claim 17, wherein the first and second guide means form a polarity-reversal protection or coding.

15 26. The connector assembly as claimed in Claim 17, wherein the connector modules form a stack, and wherein the main housing is essentially L-shaped, and covers an upper face and a rear face of the stack.

20 27. The connector assembly as claimed in Claim 17, wherein the module housings each have at least a peg, and the main housing has a plurality of corresponding openings, with the pegs and the openings forming press fits.

25 28. A method for assembling of a modular electrical connector assembly, comprising the following steps:
 manufacturing a plurality of connector modules, wherein
 a module housing is provided in each case,
 a shield is fitted to each of the module housings,
 a plurality of terminals is inserted into each of
30 the module housings, and
 the terminals are mounted in each of the module housings,
 providing of a main housing and,
 inserting of the connector modules into the main
35 housing, wherein

the connector modules are joined together to form a stack before inserting into the main housing, and the stack is inserted as a whole into the main housing, or

the connector modules are inserted into the main housing successively, and are joined together in the same step.

29. The method as claimed in Claim 28, wherein the terminals are inserted into channels in the module housing, and a cover is then fitted to the module housing for mounting the terminals in the module housing.

30. The method as claimed in Claim 28, wherein the terminals are pressed into channels in the module housing, and a cover is then pressed onto the module housing for mounting the terminals in the module housing.

31. The method as claimed in Claim 28, wherein the terminals are hot-stamped into channels in the module housing, and a cover is then pressed onto the module housing for mounting the terminals in the module housing.

32. The method as claimed in Claim 28, wherein the connector modules are attached to the main housing form-fit.

33. The method as claimed in Claim 28, wherein the baseplate is attached to the module housings.

34. The method as claimed in Claim 28, wherein, during or after the assembly of the connector modules, at least a guide element, a polarity-reversal protection element or a coding element is inserted.